

REMARKS

Claims 1-14 and 20 are pending in this application and in view of the following remarks are believed to be in condition for allowance. Withdrawn method claims 15-19 have been canceled.

Claims 1-14 and 20 were rejected as obvious and unpatentable in view of the combined teachings of U.S. Patent No. 6,457,547 to Novitschitsch, U.S. Patent No. 3,531,602 to Brown, U.S. Patent No. 6,164,408 to Lamm et al and U.S. Patent No. 5,875,252 to Lessage.

These rejections are believed to be obviated in view of the foregoing amendments and the following remarks.

Rejection of Claims 1-4 and 20 Under 35 USC 103(a):

Claims 1-4 and 20 have been rejected under 35 USC 103(a) as being obvious and unpatentable in view of the combined teachings of U.S. Patent No. 6,457,547 to Novitschitsch and U.S. Patent No. 3,531,602 to Brown.

In response, the applicant respectfully points out that independent claim 1 positively recites structural limitations not found in any possible combination of the cited references.

Specifically, claim 1 recites a loudspeaker motor structure with the following structural limitations:

“a loudspeaker driver including a diaphragm suspended in a supporting flange structure proximate the driver proximal peripheral edge, said driver diaphragm having a proximal surface and a central axis; said driver further including a motor structure including a magnet and an axially aligned pole piece; and a control switch connected to said loudspeaker and configured to control a signal passed to the loudspeaker driver; said switch being actuable using an elongate switch shaft having a proximal end, said shaft passing through said pole piece and said driver diaphragm whereby said shaft proximal end projects proximally beyond said driver diaphragm proximal surface” (bold emphasis added.)

As clearly recited in claim 1 (and claims 2-4, depending therefrom) the actuating control switch shaft passes thru the center of the motor's pole piece, and this novel structural feature is nowhere taught or suggested in the prior art.

Independent method claim 20 is similarly distinguishable, since it recites a method of making the speaker of the present invention and specifically recites the following method steps:

*“(a) providing a loudspeaker driver having a diaphragm with a proximal surface bounded by a peripheral edge and a distal motor structure including an axially aligned pole piece having an aperture therethrough,
(b) inserting a switch carrying an elongate shaft having a free end through said pole piece aperture to project proximally beyond said diaphragm proximal surface...” (bold emphasis added.)*

As clearly recited in claim 20 the control switch shaft is inserted and passes thru the center of the motor's pole piece, and this novel combination of method steps is nowhere taught or suggested in the prior art.

Turning specifically to the cited art, U.S. Patent No. 6,457,547 to Novitschitsch does not teach or suggest anything about a control switch that is actuatable from the front, and instead teaches a structure for a car speaker enclosure. No control feature is incorporated into any part of the motor structure and the speaker driver motor need not even include a pole piece or a control switch shaft. This is to be combined, we are told, with U.S. Patent No. 3,531,602 to Brown, which teaches a structure for a table radio cabinet having controls with shafts passing forward thru apertures in a foamed cellular plastic diaphragm, but again, no mention is made of motor structure, and so there is no teaching that an axially aligned driver motor pole piece and diaphragm are configured to receive a control's shaft thru a pole piece.

It is respectfully submitted that if these references were combined, the only possible result would be to mount the radio of Brown in Novitschitsch's enclosure, presumably in a motor vehicle, and so the advantages of the compact structure and easy method of the present

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invention would not be found. Brown and Novitschitsch are not really combinable to arrive at the structure of claim 1, absent hindsight and the disclosure of this applicant's invention.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Rejection of Claims 5 and 8-14 Under 35 USC 103(a):

Claims 5 and 8-14 have been rejected under 35 USC 103(a) as being obvious and unpatentable in view of the combined teachings of U.S. Patent No. 6,457,547 to Novitschitsch, U.S. Patent No. 3,531,602 to Brown and U.S. Patent No. 6,164,408 to Lamm et al.

In response, the applicant respectfully points out that claims 5 and 8-14 depend directly or indirectly from independent claim 1 and positively recite structural limitations not found in any possible combination of the cited references.

As noted above, claim 1 recites a loudspeaker motor structure with the following structural limitations:

"a loudspeaker driver including a diaphragm suspended in a supporting flange structure proximate the driver proximal peripheral edge, said driver diaphragm having a proximal surface and a central axis; said driver further including a motor structure including a magnet and an axially aligned pole piece; and a control switch connected to said loudspeaker and configured to control a signal passed to the loudspeaker driver; said switch being actuable using an elongate switch shaft having a proximal end, said shaft passing through said pole piece and said driver diaphragm whereby said shaft proximal end projects proximally beyond said driver diaphragm proximal surface" (bold emphasis added.)

As clearly recited in claim 1 (and claims 5 and 8-14, depending therefrom) the actuating control switch shaft passes thru the center of the motor's pole piece, and this novel structural feature is nowhere taught or suggested in the prior art.

Turning specifically to the cited art, U.S. Patent No. 6,164,408 to Lamm et al discloses a driver motor or exciter 14 that may not include a pole piece, but if it does, there are no user operable controls passing thru any driver pole piece. Instead, it appears that the structure and method taught in Lamm et al is intended to be mounted in a plenum above any ceiling or other partition, and so is not intended to be adjusted by a user when facing the diaphragm, after mounting the loudspeaker. This is to be combined, we are told, with U.S. Patent No. 6,457,547 to Novitschitsch which does not teach or suggest anything about a control switch that is actuable from the front, and instead teaches a structure for a car speaker enclosure. No control feature is incorporated into any part of the motor structure and the speaker driver motor need not even include a pole piece or a control switch shaft.

Combining some hybrid or composite taken from Lamm et al and Novitschitsch, we are asked to add elements gleaned from U.S. Patent No. 3,531,602 to Brown, which, as noted above, teaches a structure for a table radio cabinet having controls with shafts passing forward thru apertures in a foamed cellular plastic diaphragm, but again, no mention is made of motor structure, and so there is no teaching that an axially aligned driver motor pole piece and diaphragm are configured to receive a control's shaft thru a pole piece.

It is respectfully submitted that if these references were combined, the only possible result would be to mount the radio of Brown in Novitschitsch's enclosure, presumably in a building plenum or a motor vehicle, and so the advantages of the compact structure and easy method of the present invention would still not be found. Lamm, Brown and Novitschitsch are not really combinable to arrive at the structure of this applicant's claims, absent hindsight and the disclosure of this applicant's invention, and even then, the combination is missing structural elements that are positively recited in the claims.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Rejection of Claims 6 and 7 Under 35 USC 103(a):

Claims 6 and 7 have been rejected under 35 USC 103(a) as being obvious and unpatentable in view of the combined teachings of U.S. Patent No. 6,457,547 to Novitschitsch, U.S. Patent No. 3,531,602 to Brown and U.S. Patent No. 5,875,252 to Lessage.

In response, the applicant respectfully points out that claims 6 and 7 depend directly or indirectly from independent claim 1 and positively recite structural limitations not found in any possible combination of the cited references.

As noted above, claim 1 recites a loudspeaker motor structure with the following structural limitations:

*“a loudspeaker driver including a diaphragm suspended in a supporting flange structure proximate the driver proximal peripheral edge, said driver diaphragm having a proximal surface and a central axis; said driver further including **a motor structure including a magnet and an axially aligned pole piece**; and a control switch connected to said loudspeaker and configured to control a signal passed to the loudspeaker driver; said switch being actuatable using an elongate switch shaft having a proximal end, **said shaft passing through said pole piece** and said driver diaphragm whereby said shaft proximal end projects proximally beyond said driver diaphragm proximal surface” (bold emphasis added.)*

As clearly recited in claim 1 (and claims 6 and 7, depending therefrom) the actuating control switch shaft passes thru the center of the motor's pole piece, and this novel structural feature is nowhere taught or suggested in the prior art.

Turning specifically to the cited art, U.S. Patent No. 5,875,252 to Lessage discloses a loudspeaker driver motor for use, apparently, in a horn-loaded tweeter with a particular kind of phase plug 16 that is apparently held in place by a bolt 18 passing thru a pole piece in a way that permanently clamps the center of a diaphragm 4. It appears that the structure and method taught in Lessage is intended to provide fixed support for a distinctive diaphragm 4 and its suspension, all of which are buried within a horn-loaded tweeter structure, and so Lessage has nothing to do with any control to be adjusted by a user when facing the speaker after it is mounted. This horn-loaded tweeter driver is to be combined, we are told, with U.S. Patent No. 6,457,547 to Novitschitsch which does not teach or suggest anything about a control switch that is actuatable from the front, and instead teaches a structure for a car speaker enclosure. No control feature is incorporated into any part of the Lessage's motor structure and the speaker driver motor does not include a control or a switch shaft.

Combining some hybrid or composite taken from Lessage et al and Novitschitsch, we are asked to add elements gleaned from U.S. Patent No. 3,531,602 to Brown, which, as noted above, teaches a structure for a table radio cabinet having controls with shafts passing forward thru apertures in a foamed cellular plastic diaphragm, but again, no mention is made of motor structure, and so there is no teaching that an axially aligned driver motor pole piece and diaphragm are configured to receive a control's shaft thru a pole piece.

It is respectfully submitted that if these references were combined, the only possible result would be to mount the radio of Brown in Novitschitsch's enclosure, presumably in a tweeter's horn throat, and so the advantages of the compact structure and easy method of the present invention would still not be found. Lessage, Brown and Novitschitsch are not really combinable to arrive at the structure of this applicant's claims, absent hindsight and the disclosure of this applicant's invention, and even then, the combination is missing structural elements that are positively recited in the claims.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, the present application is now believed to be in condition for allowance. The Examiner is asked to consider entering this response and amendment and pass the application to allowance.

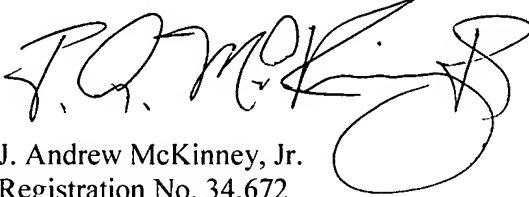
Further and favorable consideration is requested.

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It is not believed that extensions of time or fees are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims or the additional of independent claims in excess of three) is hereby authorized to be charged to Deposit Account No. 10-1213 and the undersigned is requested to be notified of any such charges.

Should the Examiner have any questions, he is requested to contact the undersigned.

Respectfully submitted,


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